

AFT TUBE ONLY - SHIP AUG 25

Work Order ID 72320



Page 1

Friday, July 22, 2011 10:37:09 AM

Item ID: D3391-025

Accept



Setup Start



Revision ID:

Stop



Item Name: Aft Tube Assembly

Start Date: 7/22/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 8/25/2011 Req'd Qty: 1.00

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

Draw Nbr

Revision Nbr

D3391

Rev H/ DEO

100

0.00



MORI SEIKI CNC LATHE LARGE

Mori Seiki

Memo

0.00

Mori Seiki CNC Lathe Large

Turn as per Folio FA599

Rev: \_\_\_\_ & Dwg D3391 Rev: \_\_\_\_

\*\*\*scribe batch # on fwd end at 90 degree\*\*\*

110

QC2- Inspect parts off machine FAI/FAIB

0.00



QC

Memo

0.00

Quality Control

111

QC8- Inspect parts - second check

0.00



QC

Memo

0.00

Quality Control

1 Ø  
man L 11/08/15

1 Ø  
man L 11/08/15

SL 11/18/22

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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Page 2

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Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

120



HAAS 1

HAAS CNC vertical machine #1

HAAS CNC VERTICAL MACHINING #1

0.00

Memo

0.00

1-Machine as per Folio FA 599 Rev: AA & Dwg D3391 Rev: H  
2-Deburr

JL 11-08-22

1

130



QC

Quality Control

QC2- Inspect parts off machine FAI/FAIB

0.00

JL

11-08-22

1

Memo

0.00

140



QC

Quality Control

QC8- Inspect parts - second check

0.00

JL

11-08-22

1

Memo

0.00

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Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

150

0.00



Skidtubes

Skidtubes

Memo

0.00

1-Drill ( PILOT HOLE) aft cap holes per Dwg D3391 using DT8803

DP 11-8-22

160

0.00



BENDING MACHINE - SKIDTUBES

CNC Bend I

Memo

0.00

CNC Delta 100 Bender

Form as per Dwg D3391 Using Bend Prog 3391025

DP 11-8-22

170

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

3.96

1

BEI/08/22

W/O:		WORK ORDER CHANGES					
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Page 4

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Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Stop:



Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

180

0.00



Skidtubes

Skidtubes

Memo

0.00

Skidtubes

1-Open Aft cap pilot hole to .208" as per Dwg D3391

2-Drill float bag holes using DT8809 as per Dwg D3391(Holes marked "A" Only.

3-Drill wearplate holes as per Dwg D3391 using DT8878(Mid Tube) & DT8217  
Wearplate Jig .

\*\*\*\*\*Do Not Open To Finished Size\*\*\*\*\*

4-Drill Wearshoe holes as per DWG D3391 using DT8939 locating from 2  
previously drilled aft wearplate holes.

5-Open wearplate holes to 0.250" and c'bore as per dwg D3391

6-Open up all wearshoe , wearplate to 0.297"and float bag holes to 0.328" as per  
Dwg D3391.

7-Deburr

8/2/11/08/23

11-8-22

W/O:		WORK ORDER CHANGES					
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Page 5

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Reference:

Run Start



Approvals: Process Plan:

Date:

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID Tool # Plan Accept Reject Reject Insp.  
Code Qty Qty Number Stamp

190

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

200

Chemical Conversion Coat per QSI005 4.1

0.00



HandFinish

Memo

0.00

Hand Finishing

210

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

5/10/23



Sh  
11/08/23



11-8-23

W/O:		WORK ORDER CHANGES					
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Page 6

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Reference:

Run Start



Approvals: Process Plan:

Date:

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

220

0.00



Skidtubes

Skidtubes

Memo

0.00

Skidtubes

Instal spacers as per dwg D3391

A/R Magnabond 6398 Batch: M116677

exp. date: 12/01/15

cure time 12hrs as per QSI0015

Dh  
11/08/23

230

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

8 11/08/24

235

Pressure Wash per QSI005 4.3

0.00



HandFinish

Memo

0.00

Hand Finishing

AND REALODINE AS PER PAR09-043

1X M-11/08/24

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Page 7

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Customer:

Reference:

Run Start



Approvals:

Process Plan:

Date:

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID Tool # Plan Code Accept Qty Reject Qty Reject Number Insp. Stamp

240

White Gloss(Ref:4.3.5.1) per QS1005 4.3-Alum

0.00



Powdercoat

Powder Coating

Memo

START TIME:

OVEN TEMPERATURE:

FINISH TIME:

3:15  
320 OF  
3:45

0.00

120 M-12/08/24

250

QC3- Inspect Part Finish

0.00



QC

Quality Control

Memo

0.00

1 BL 11-8-25.

260

HandFinishing

0.00



HandFinish

Hand Finishing

Memo

1-Install inserts as per Dwg D3391

2-Install Aft Cap as per Dwg D3391

A/ R Sikaflex-241/-291

Sikaflex expiry date:

11/3/93  
12-5.

0.00

1 BL 11-8-25.

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Page 8

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Cust Item ID:

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Customer:

Reference:

Run Start



Approvals: Process Plan:

Date:

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

270

QC5- Inspect part completeness to step on W/O

0.00

8 u10e/25



QC

Memo

0.00

Quality Control



280

Identify as per dwg & Stock Location: \_\_\_\_\_

0.00



Packaging

Memo

0.00

Packaging

11/8/25

290

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

11/8/25

11/8/25

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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# Picklist Print

Friday, July 22, 2011 10:37:06 AM

Page 1

Work Order ID: 72320

Parent Item: D3391-025

Parent Item Name: Aft Tube Assembly



Start Date: 7/22/2011

Required Date: 8/25/2011

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev B 06-02-07 ECN773 dwg rev. D EC  
 IPP Rev:C 06-03-28 Update Manuf. Instructions JLM  
 IPP rev D 07.03.20 revF dwg EC  
 IPP rev E 07.11.07 rev G dwg ecn 1053p EC verified by: DD  
 IPP Rev:F 07-11-13 ECN 1056 DD verified by: EC  
 IPP Rev:G 08-09-10 revH as per dwg DD verified by:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6014-090		Manufactured	No			100	Each	1.0000	1	1			



ALUMINUM EXTRUSION

066179



11/08/15

Location	Loc Qty	Loc Code
LG	1	
56572	1	

D3670-4-200	Manufactured	No			230	Each	60.0000	4	4			
-------------	--------------	----	--	--	-----	------	---------	---	---	--	--	--



SPACER



Location	Loc Qty	Loc Code
LG	60	
70822	18	
71850	42	

72851

49

DL  
11/08/23

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Page 2

Work Order ID: 72320

Parent Item: D3391-025

Parent Item Name: Aft Tube Assembly



Start Date: 7/22/2011

Required Date: 8/25/2011

Start Qty: 1.00

Required Qty: 1.00

D2646

Manufactured No

270

Each

111.0000

1

1



Aft Cap



BR 11-8-25.

## Location

## Loc Qty

## Loc Code

FP004

58

68280 ✓

58

FP006

5

62678

5

FP-4

39

70945

1

71070

38

fp5

9

71038

9

D3537-1

Manufactured No

270

Each

7.0000

1

1



Wearpad



BR 11-8-25

## Location

## Loc Qty

## Loc Code

FP017

7

70687

69817

5

70686

2

D3537-7

Manufactured No

270

Each

2.0000

1

1



Wearpad



BR 11-8-25

## Location

## Loc Qty

## Loc Code

FP019

2

71689

69320

2

Friday, July 22, 2011 10:37:06 AM

Shop Packet Print

Page 2

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Start Date: 7/22/2011

Required Date: 8/25/2011

Start Qty: 1.00

Required Qty: 1.00

D3553-1

Manufactured No

270 Each

4.0000

1 1



Gasket



BR 11-8-25

Location

Loc Qty

Loc Code

FP013

4

56568 ✓

4

1

D3553-3

Manufactured No

270 Each

28.0000

1 1



Gasket



BR 11-8-25

Location

Loc Qty

Loc Code

FP

20

31631

20

FP013

8

53480 ✓

8

1

D3672-1

Manufactured No

270 Each

920.0000

2 2



Phenolic Washer



BR 11-8-25

Location

Loc Qty

Loc Code

ST074

918

64177 ✓

418

66821

500

ST077

2

52505

2

2

Friday, July 22, 2011 10:37:06 AM

Shop Packet Print

Page 3

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Start Date: 7/22/2011

Required Date: 8/25/2011

Start Qty: 1.00

Required Qty: 1.00

ALS4-1032-130

Purchased

No

260

Each

3,132.000

14

14



Insert



BL 11-8-25

## Location

## Loc Qty

## Loc Code

ST281

1008

117331

8

118386

1000

ST282

2124

117717

124

118237

1744

118312

256

14

BL 11-8-25.

ALS4-1032-225

Purchased

No

270

Each

973.0000

12

12



Insert



ALS4-1032-225 111581

12

BL 11-8-25.

## Location

## Loc Qty

## Loc Code

ST282

973

110768

104

117717

9

118386

860

AN3C4A

Purchased

No

270

Each

1,396.000

6

6



BOLT



## Location

## Loc Qty

## Loc Code

ST350

1396

117313

2

117688

332

117795

500

117872

22

118012

500

118112

40

6

BL 11-8-25.

Friday, July 22, 2011 10:37:06 AM

Shop Packet Print

Page 4

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Page 5

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Start Date: 7/22/2011

Required Date: 8/25/2011

Start Qty: 1.00

Required Qty: 1.00

AN3C5A

Purchased

No

270

Each

1.039.000

4

4



Bolt



BR 11-8-25.

## Location

## Loc Qty

## Loc Code

FP-A

7

115835

7

ST350

1032

116419

28

116549

42

117343 ✓

500

117764

300

117872

162

4.

AN960C10L

NAS1149C0332  
R

✓ Purchased

No

270

Each

0.0000

10

10



washer



118306.

10.

BR-11-8-25

Friday, July 22, 2011 10:37:06 AM

Shop Packet Print

Page 5

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

<b>DART AEROSPACE LTD</b>		<b>Work Order:</b>	77870
<b>Description:</b> Float Skidtube (412)		<b>Part Number:</b>	D3391-3
<b>Inspection Dwg:</b> D3391	<b>Rev:</b> H	<b>Page 1 of 1</b>	

### FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
<b>Lathe Section</b>						
14.000	+/-0.010	14	✓		tape	mm L-02
3.500	+/-0.010	3.50	✓		vern	JF-01
88.93	+/-0.030	88.935	✓		tape	mm L-02
Ø3.200	+/-0.010	3.20	✓		mic	CNC-05
88.93	+/-0.030	88.935	✓		tape	mm L-02
Ø3.750	+/-0.010	3.750	✓		mic	CNC-05
30° x 160° chamfer	+/-0.010	30° x 160	✓		vern	JF-01

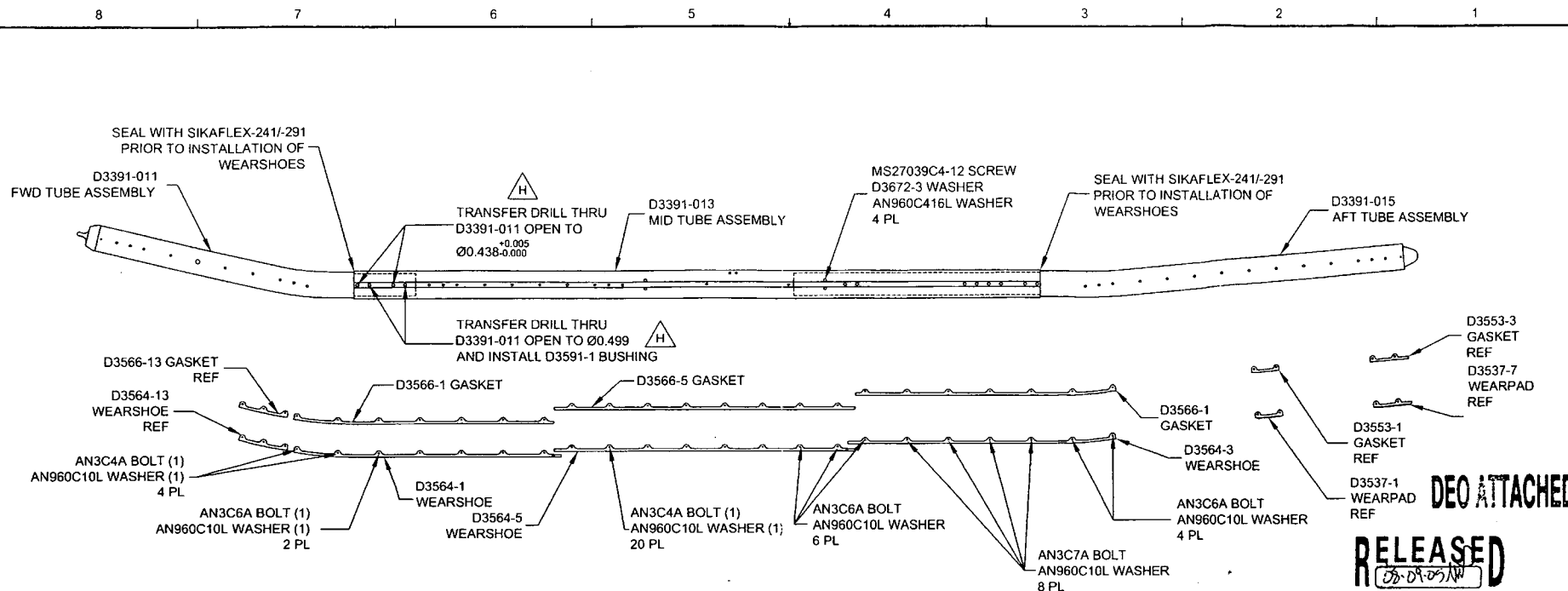
<b>Measured by:</b> <i>[Signature]</i>	<b>Date:</b> 11/08/19
<b>Audited by:</b> <i>[Signature]</i>	<b>Date:</b> 11/8/22

<b>HAAS Section</b>						
1.526	+0.000/-0.030	1.515	✓		vern	SL-3
7.500	+/-0.010	7.499	✓		vern	CNC-02
27.750	+/-0.010	27.750	✓		mm-tape	
31.750	+/-0.010	31.750	✓			
35.250	+/-0.010	35.250	✓			
3.300	+/-0.010	3.304	✓		vern	CNC-02
0.200	+/-0.010	0.205	✓		vern	SL-3
3.520	+/-0.010	3.527	✓		mic	RQ-04
0.687	+0.010/-0.000	0.690	✓			
R0.062	+/-0.010	0.062	✓			
Ø0.484	+0.005/-0.001					

<b>Measured by:</b> <i>[Signature]</i>	<b>Date:</b> 11-08-18
<b>Audited by:</b> <i>[Signature]</i>	<b>Date:</b> 11/8/22

Rev	Date	Change	Revised by	Approved
A	06.04.24	New Issue P/O D3391-015/-025	KJ/JLM	
B	06.06.19	Dwg revision update	KJ/JLM	
C	07.04.20	Ø0.208 dimension removed	KJ/JLM	
D	07.09.06	0.400 dimension removed	KJ/JLM	
E	07.11.23	Dwg Rev. updated	KJ/EC/DD	
F	09.04.27	Dimensions updated per Rev H and NCR09-028	KJ/JLM	
G	09.11.16	Dimension 0.200 removed	KJ	
H	11.06.21	Dimension 44.995 removed	KJ	<i>[Signature]</i>





**D3391-041 ASSEMBLY**

**D3391-041 FLOAT SKIDTUBE ASSEMBLY PARTS LIST**

QTY	PART NUMBER	DESCRIPTION
1	D3391-041	FLOAT SKIDTUBE ASSEMBLY
1	D3391-011	FWD TUBE ASSEMBLY
1	D3391-013	MID TUBE ASSEMBLY
1	D3391-015	AFT TUBE ASSEMBLY
1	D3564-1	WEARSHOE
1	D3564-3	WEARSHOE
1	D3564-5	WEARSHOE
2	D3566-1	GASKET
1	D3566-5	GASKET
2	D3591-1	BUSHING
4	D3672-3	WASHER
24	AN3C4A	BOLT
12	AN3C6A	BOLT
8	AN3C7A	BOLT
44	AN960C10L	WASHER
4	MS27039C4-12	SCREW
4	AN960C416L	WASHER

**GENERAL NOTES**

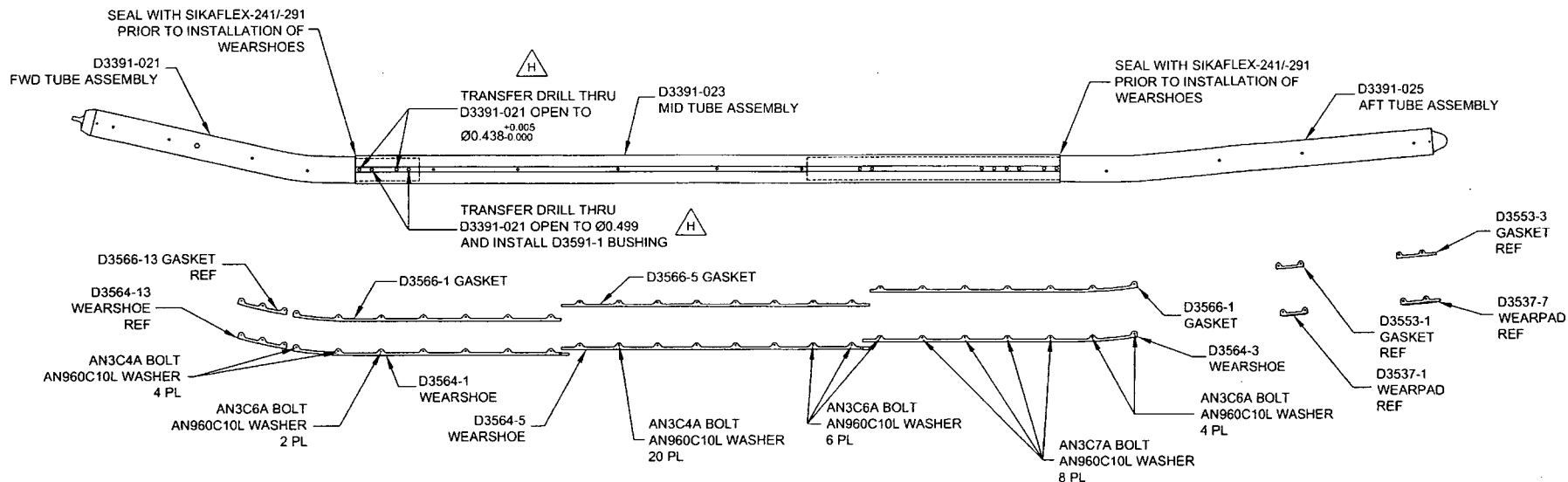
- 1) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 2) SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL Ø0.297 SIZE HOLES FOR WEARSHOE INSERTS. C'BORE AS NOTED AND INSTALL INSERTS EXCEPT WHERE INDICATED.

H	DRAWING UPDATED TO CURRENT STANDARDS. SHT 1 PL ADDED D3591-1 BUSHING. ZN C6 Ø0.438 DIM WAS 4 PL. ADDED Ø0.499 DIM AND D3591-1 BUSHING. SHT 2 PL ADDED D3591-1 BUSHING. ZN C6 Ø0.438 DIM WAS 4 PL. ADDED Ø0.499 DIM AND D3591-1 BUSHING. (FOR FURTHER INFO SEE DSI 9364 & NCR 08-074)	AJS	08.08.20
G	REPLACE NAS INSERTS W/ AELS INSERTS SWITCH TO D3870-XXXX SPACERS FOR INSTALLING FLOAT BAGS, DWG REORGANIZED FOR CLARITY	DC	07.07.31
F	ADD SS WEARSHOE, GASKET REMOVE FWD SADDLE HOLE -011/-021	PH	07.01.18
E	CHANGE TOLERANCE, EASE MANUFACTURE	PH	06.04.25
D	UPDATE TOLERANCE, CHANGE HOLE SIZE	PH	06.01.23
C	LENGTHEN AFT EXTENSION	PH	05.09.27
B	DRAWING UPDATES	PH	05.06.10
A	NEW ISSUE	PH	05.02.07
REV.	DESCRIPTION	BY	DATE
DESIGN	PH	<b>DART AEROSPACE USA, INC</b> PORT HADLOCK, WA	
DRAWN	AJS		
CHECKED		DRAWING NO.	REV. H
MFG. APPR.		D3391	SHEET 1 OF 8
APPROVED		TITLE	SCALE
DE APPR.		412 FLOAT SKIDTUBE	NTS
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DEO ATTACHED

RELEASED  
08-09-20

*W/O 22320*



**D3391-043 ASSEMBLY**

**D3391-043 FLOAT SKIDTUBE ASSEMBLY PARTS LIST**

QTY	PART NUMBER	DESCRIPTION
1	D3391-043	FLOAT SKIDTUBE ASSEMBLY
1	D3391-021	FWD TUBE ASSEMBLY
1	D3391-023	MID TUBE ASSEMBLY
1	D3391-025	AFT TUBE ASSEMBLY
1	D3564-1	WEARSHOE
1	D3564-3	WEARSHOE
1	D3564-5	WEARSHOE
2	D3566-1	GASKET
1	D3566-5	GASKET
2	D3566-13	GASKET
24	AN3C4A	BOLT
12	AN3C6A	BOLT
8	AN3C7A	BOLT
44	AN960C10L	WASHER

**GENERAL NOTES**

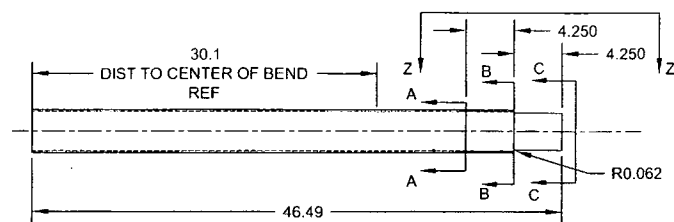
- 1) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 2) SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY. CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL Ø0.297 SIZE HOLES FOR WEARSHOE INSERTS. C-BORE AS NOTED AND INSTALL INSERTS EXCEPT WHERE INDICATED.

*22320*

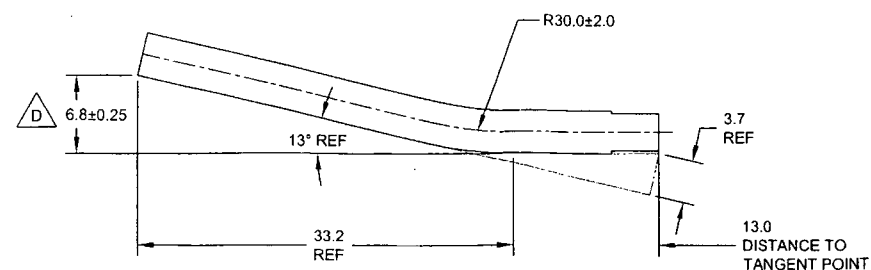
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**RELEASED**  
08-09-25-18

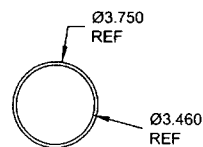
DESIGN	PH	<b>DART AEROSPACE USA, INC</b>	
DRAWN	AUS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. H
MFG. APPR.		D3391	SHEET 2 OF 8
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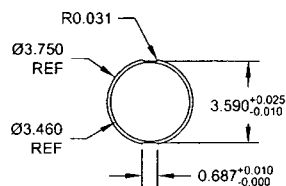
**D3391-1 CUTTING DETAIL**  
(MAKE FROM D6013-047 SKIDTUBE MATERIAL)



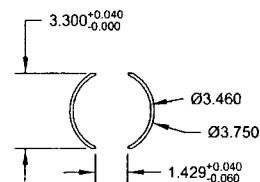
**D3391-011/-021 BENDING DETAIL**  
(MAKE FROM D3391-1)



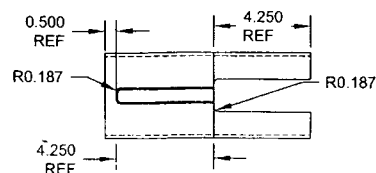
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**SECTION B-B**  
SCALE 2X



**SECTION C-C**  
SCALE 2X

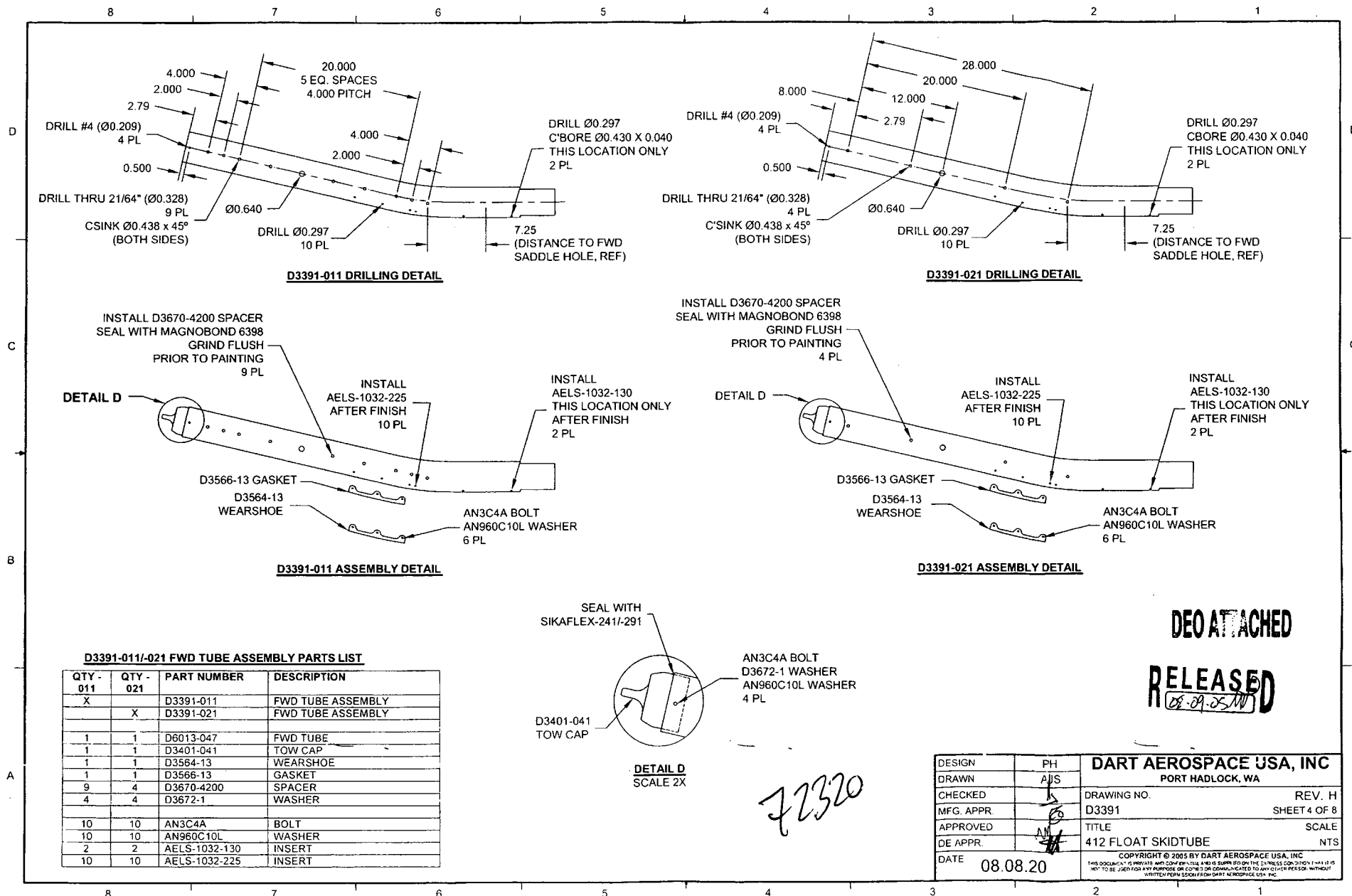


**VIEW Z-Z**  
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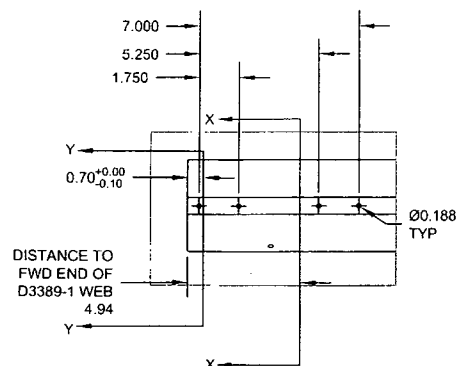
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RELEASED  
28 JAN 05 NW

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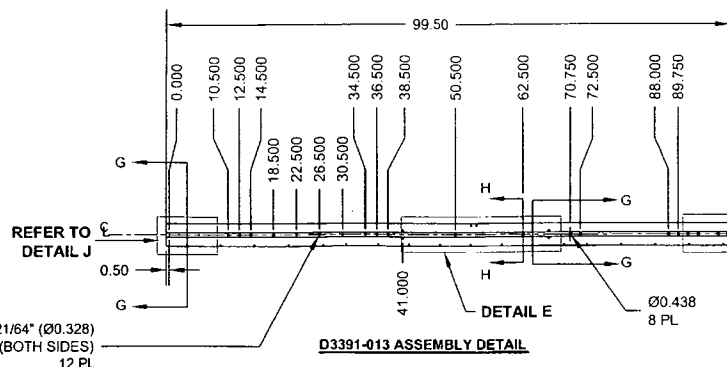






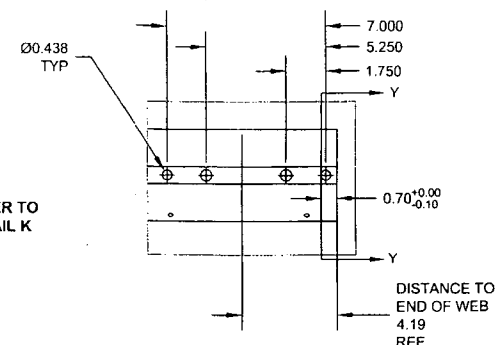
DETAIL J  
SCALE 4X

DRILL THRU 21/64" (Ø0.328)  
CSINK Ø0.438 X 45° (BOTH SIDES)  
12 PL



D3391-013 ASSEMBLY DETAIL

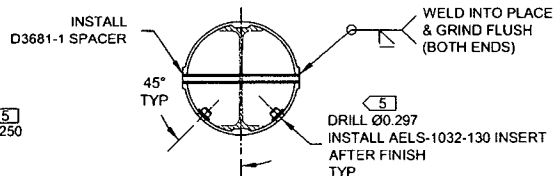
REFER TO  
DETAIL K



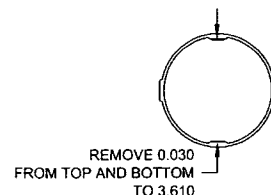
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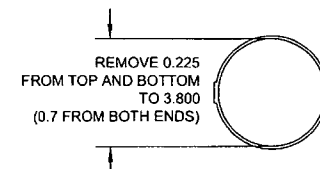
SECTION G-G  
SCALE 5X



SECTION H-H  
SCALE 5X

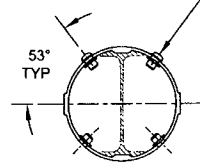


SECTION X-X  
SCALE 5X

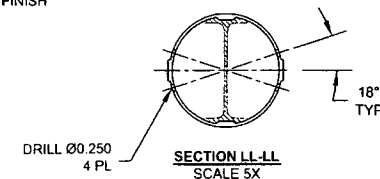


SECTION Y-Y  
SCALE 5X

DRILL Ø0.297  
INSTALL AELS-1032-130 INSERT  
MS27039C1-09 SCREW  
D3672-1 WASHER  
AN960C10L WASHER  
AFTER FINISH  
4 PL



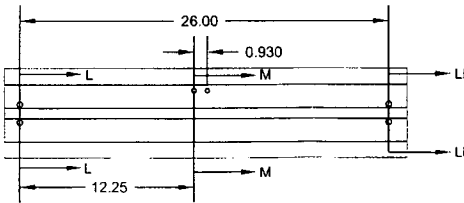
SECTION M-M  
SCALE 5X



SECTION L-L  
SCALE 5X

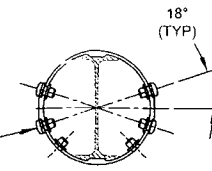
**D3391-013 MID TUBE ASSEMBLY PARTS LIST**

QTY -013	PART NUMBER	DESCRIPTION
X	D3391-013	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
4	D3672-1	WASHER
4	D3672-3	WASHER
12	D3681-1	SPACER
24	AELS-1032-130	INSERT
4	ALS-428-165	INSERT
4	AN960C10L	WASHER
4	AN960C416L	WASHER
4	MS27039C1-09	SCREW
4	MS27039C4-08	SCREW



DETAIL E  
SCALE NONE

DRILL Ø0.391  
INSTALL ALS-428-165 INSERT  
MS27039C4-08 SCREW  
D3672-3 WASHER  
AN960C416L WASHER  
AFTER FINISH  
4 PL



SECTION L-L  
SCALE 5X

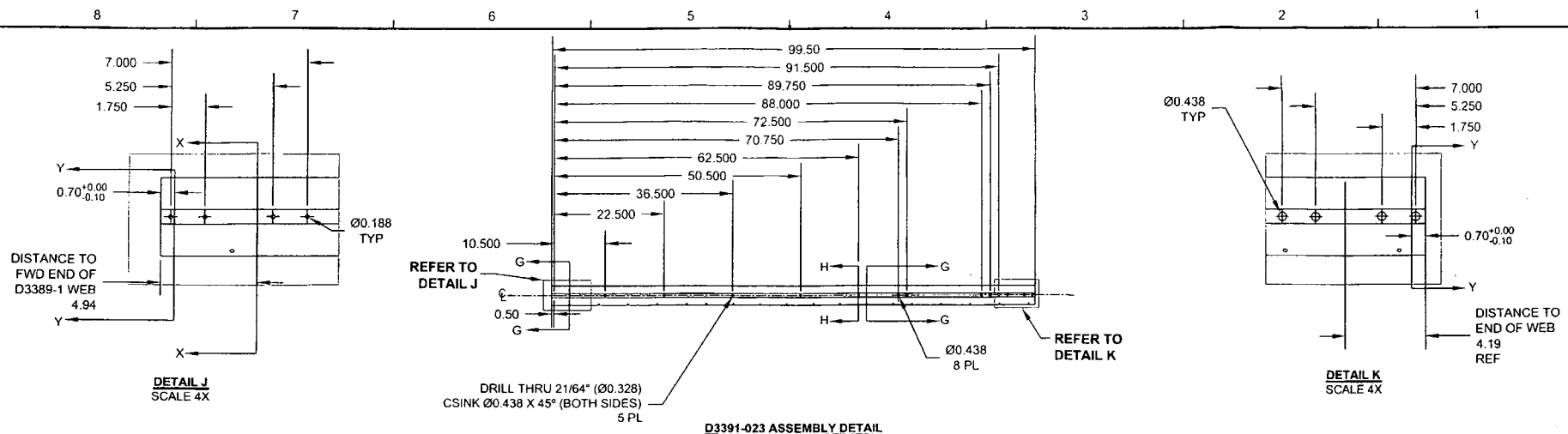
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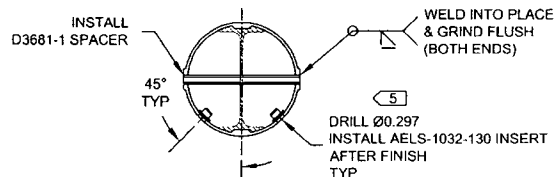
DESIGN		PH	DART AEROSPACE USA, INC	
DRAWN		AJS	PORT HADLOCK, WA	
CHECKED			DRAWING NO.	REV. H
MFG. APPR.			D3391	SHEET 5 OF 8
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**D3391-013 MID TUBE ASSEMBLY**

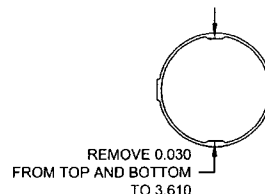
- 1) MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
- 2) INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/-291 PER QSI 015
- 3) WELDING: PER DART QSI 004



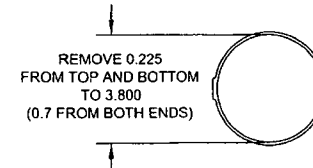
SECTION G-G  
SCALE 5X



SECTION H-H  
SCALE 5X



SECTION X-X  
SCALE 5X



SECTION Y-Y  
SCALE 5X

**D3391-023 MID TUBE ASSEMBLY PARTS LIST**

QTY -	PART NUMBER	DESCRIPTION
023		
X	D3391-023	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
5	D3681-1	SPACER
20	AELS-1032-130	INSERT

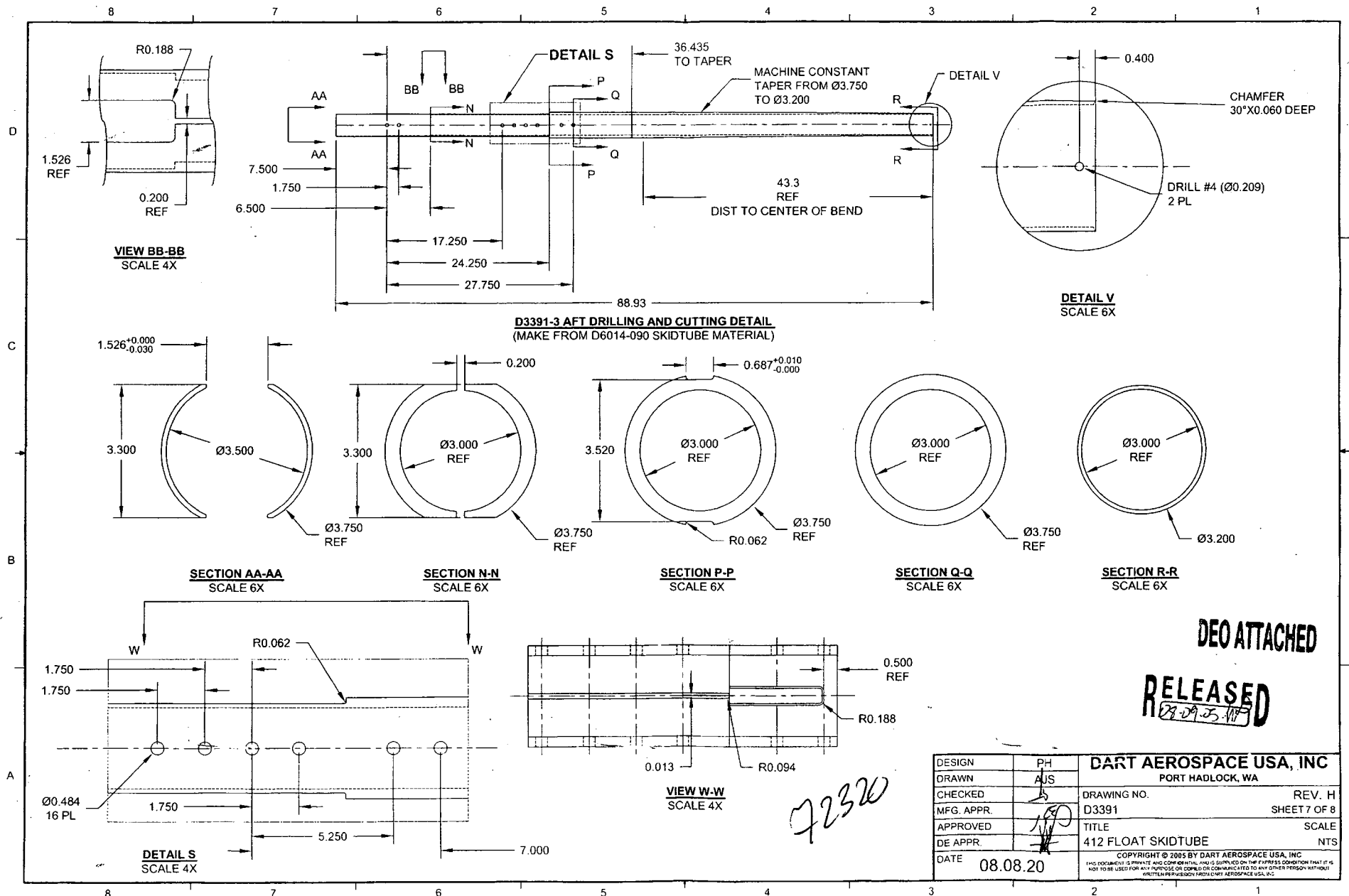
**D3391-023 MID TUBE ASSEMBLY**

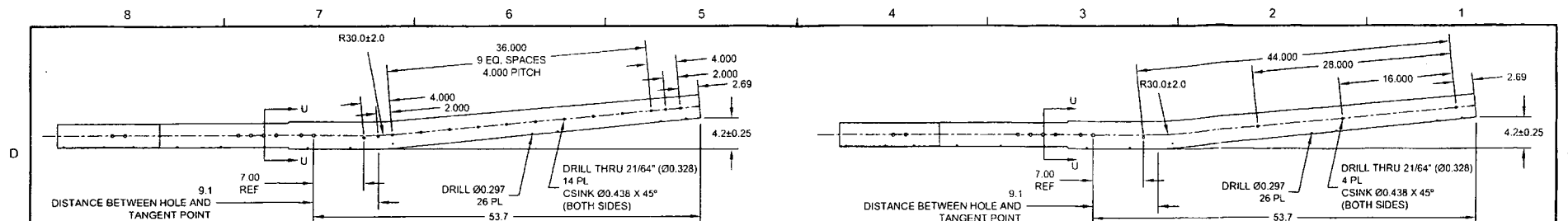
- 1) MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
- 2) INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/291 PER QSI 015
- 3) WELDING: PER DART QSI 004

DESIGN	PH	<b>DART AEROSPACE USA, INC</b>	
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CHECKED		DRAWING NO.	REV. H
MFG APPR.		D3391	SHEET 6 OF 8
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DEC ATTACHED  
RELEASED  
08-08-20

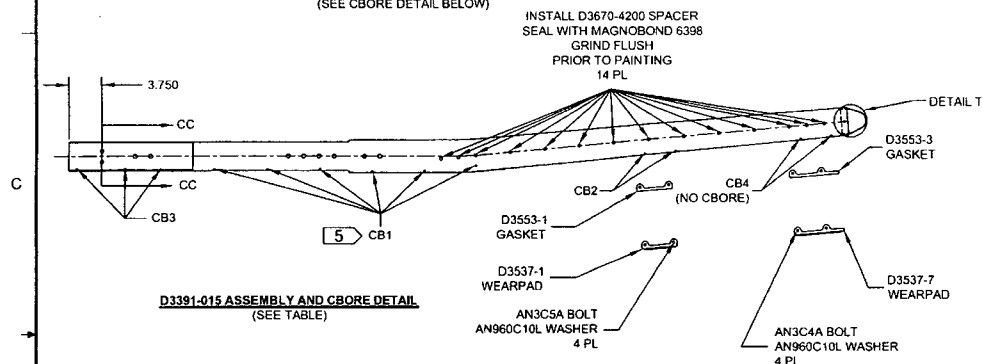
72320



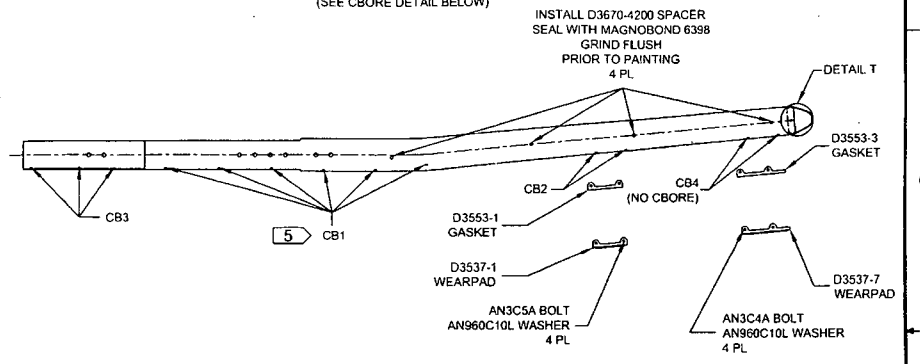


**D3391-015 BENDING AND DRILLING DETAIL**  
(SEE CBORE DETAIL BELOW)

**D3391-025 BENDING AND DRILLING DETAIL**  
(SEE CBORE DETAIL BELOW)



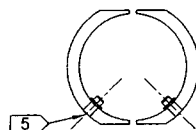
**D3391-015 ASSEMBLY AND CBORE DETAIL**  
(SEE TABLE)



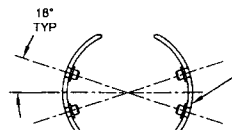
**D3391-025 ASSEMBLY AND CBORE DETAIL**  
(SEE TABLE)

**D3391-015/-025 AFT TUBE ASSEMBLY PARTS LIST**

QTY - 015	QTY - 025	PART NUMBER	DESCRIPTION
X		D3391-015	AFT TUBE ASSEMBLY
	X	D3391-025	AFT TUBE ASSEMBLY
1	1	D6014-090	AFT TUBE
1	1	D2646	AFT CAP
1	1	D3537-1	WEARPAD
1	1	D3537-7	WEARPAD
1	1	D3553-1	GASKET
1	1	D3553-3	GASKET
14	4	D3670-4200	SPACER
2	2	D3672-1	WASHER
14	14	AELS-1032-130	INSERT
12	12	AELS-1032-225	INSERT
4		ALS4-428-165	INSERT
6	6	AN3C4A	BOLT
4	4	AN3C5A	BOLT
10	10	AN960C10L	WASHER

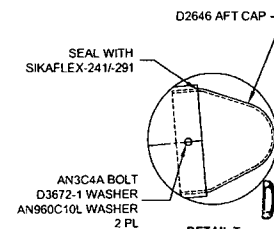


**SECTION U-U**  
SCALE 3X



**SECTION CC-CC**  
SCALE 3X

DRILL Ø0.391  
CBORE Ø0.516 X 0.040 DEEP  
INSTALL ALS4-428-165 INSERT  
4 PL



**DETAIL T**  
SCALE 4X

CBORE HOLES MARKED CB1-CB4 AS FOLLOWS A/D  
INSTALL AELS-1032-XXX AFTER FINISH AS NOTED

HOLES MARKED	QTY - D3391-015-	QTY - D3391-025	CBORE	P/N
CB1	12	12	Ø0.430 X 0.170	AELS-1032-225
CB2	4	4	Ø0.430 X 0.170	AELS-1032-130
CB3	6	6	Ø0.430 X 0.040	AELS-1032-130
CB4	4	4	NONE	AELS-1032-130

DESIGN	PH	<b>DART AEROSPACE USA, INC</b>	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. H
MFG. APPR.		D3391	SHEET 8 OF 8
APPROVED		TITLE	SCALE
DE APPR.		412 FLOAT SKIDTUBE	NTS
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72320

DEO ATTACHED  
**RELEASED**  
08-09-05/10

DRAWING NO. D3391	TITLE 412 FLOAT SKIDTUBE	REV. H	DART AEROSPACE USA, INC ENGINEERING ORDER		D.E.O. NO. D3391-H-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>WP</i>	CHECKED <i>h</i>	MFG. APPR. <i>h</i>	APPROVED <i>WP</i>	DE APPR. <i>h</i>			
DATE 09.09.23	DATE 04.04.24	DATE 09/09/25	DATE 09/09/30	DATE 09/09/30			

**PURPOSE:**

LPS-3 IS NO LONGER USED DURING ASSEMBLY OF D3391-041/-043 SKIDTUBES.

**CHANGE:**

AMEND NOTE 2 OF D3391-041/-043 SKIDTUBE ASSEMBLIES (ZN A6-1, A6-2) AS FOLLOWS:

- 2) ~~SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH~~  
~~AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH~~  
 LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS  
 OFF POWDER COATING WITH MEK DEGREASER.

**RELEASED**  
 2010-02-02

*WP*

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